

clear that by releasing the pawl and pressing on the back of the chair, it will be instantly depressed through any angle; and on the other hand, by spinning round the wheel, the back, if relieved from weight, can be instantly raised through any desired angle.

If the diameter of the rollers and large wheel be respectively $2\frac{1}{2}$ and 15 inches, then a motion of the circumference of the wheel through a quarter of an inch will raise the observer's eye about one-sixteenth of an inch, corresponding to a space of a tenth of an inch between the teeth of the ratchet wheel.

The front edge of the chair should be slightly raised to prevent the body slipping forward when the back is inclined at certain angles.

For a telescope whose eyepiece is 5 feet from the Declination axis I use two of these chairs with seats at different heights, and when my feet are off the ground pull myself into approximate position by a strap hooked on to some convenient fixture.

*Sherrington, Bray, Co. Wicklow,
1875, December.*

On Celestial Photography. By Prof. Zenger.

Professor Zenger, in a letter dated Prague, November 10, 1875, writes that he has succeeded in very greatly reducing the time of exposure in celestial photography by employing "aplanatic objectives or mirrors of large aperture." He uses a new correcting achromatic lens in combination with mirrors of large aperture and very short focal length, so as to reduce the focal length to four times the aperture.

Professor Zenger also made use of the observations in the pure air of the Engadine. He states that with these arrangements he is able to get, every day that the Sun is sufficiently bright, photographs in which the corona presents itself as "a bright circular ring with the protuberances in it, if there are any. The ring on an average 1^m in height, and only in exceptional cases of nearly 2^m , and an excentricity amounting to only $2''$ or $3''$ of arc." "There is a fainter ring with broken outer layers, though often with sharply edged outlines.

"Careful observations of the Sun with my short focal refractor have shown the possibility of viewing directly the inner and most brilliant ring, if there be a coloured glass of a greenish yellow tint used.

"I cannot say whether this ring of nearly $30''$ (it passes the filar micrometer in 2^s nearly) be the chromosphere itself, or the most brilliant inner layer of the corona next the Sun, but I and Professor Jafauk, to whom I showed it, saw it all round the Sun as a nearly spherical ring of scarcely perceptible excentricity to the Sun's centre.

"I therefore would regard it as the most brilliant part of the

1875 MNRAS...35...81P

Dec. 1875. Prof. Pritchard, on two Papers by Col. Tennant. 81

solar corona next to the Sun's disk, and showing no sharp outline, but fading away with a very rapid decrease of brilliancy."

And in a subsequent letter, dated Prague, November 17, 1875, he has sent to the Society some copies of photographs of the Sun made by him at the beginning and end of the stormy period beginning November 6, at 6^h mean time of Prague, and ending at night, November 14.

Dates of Photographs.

		h	m	
1	Nov. 6	3	0	Busch's Refractor.
1, 2	Nov. 6	3	30	Steinheil's Aplanatic.
3, 4	Nov. 14	2	20	" "
5, 6	Nov. 14	2	35	" "

Remarks upon two Papers by Colonel Tennant. By the
Rev. Prof. C. Pritchard.

In the last Number of the *Monthly Notices* Colonel Tennant has done me the honour of referring to two articles of mine communicated to the Royal Astronomical Society. These remarks, arising from so eminent a source, require a respectful consideration from myself.

The first relates to the mode of obtaining a bright and steady image of a star, or of a wire, by reflection from quicksilver; and Colonel Tennant implies that he found some difficulty in the application of the method which I proposed in the *Monthly Notices* for January 1853. On the other hand, after long and varied experience, we find the constant application of the method not only a convenience, but even a luxury, in observations. If Colonel Tennant will do me the favour of consulting my paper he will find that the chief requisites for ensuring success are three. First, the amalgamation must be perfect; and for this end it is absolutely necessary that the surface of the copper should be clean, that is to say, it must be copper, and neither dust nor grease. Secondly, the pond of mercury must be shallow throughout, and in no part exceed (say) one-twentieth of an inch in depth. Thirdly, some ready means must be provided for skimming from the surface the very objectionable film which inevitably rises to the top, and which is due to the mere fact of amalgamation. These means are described fully in my paper, and I attribute the failures which have arisen in the adoption of the method to the non-observance of these simple but necessary precautions.

With us at Oxford the whole operation of renewing a faultlessly bright and steady reflecting surface is the work of less